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# MASTER RECORD/INDIVIDUAL POSITION DATA

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A. KEY DATA							
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#### STANDARD POSITION DESCRIPTION

This is an interdisciplinary position. The titles, and series identified are appropriate, depending on the qualifications of the incumbent.

Official Title: Civil Engineer/Agricultural Engineer Working Title: Civil Engineer/Agricultural Engineer

Classification: GS-810/GS-890 - 12

Location: Field/State Level

Date: October 23, 2009 Classified by: NHQ-HRMD Number: NHQENG81089012NS

**Supervisory Code: 8** 

**NOTE**: This is a standard position description and cannot be modified without the approval from the Human Resources Management Division, Employment & Classification Team, Washington, D.C.

#### **INTRODUCTION**

a. This is an engineering position located in support of a large complex geographical area in the state. The incumbent serve as an area, zone or state engineer and is responsible for providing technical guidance and leadership in the overall planning, design, installation, and maintenance of the engineering phases of soil and water conservation practices as well as watershed flood protection programs. This position description can only be used below the state office when the area/zone engineer is supporting a sizeable geographical area that is very diverse and contains complex engineering practices.

b. Responsible for providing and maintaining a safe and healthy work environment and to use safety precautions when exposed to dangerous objects, chemicals, extreme temperatures, etc.

## **DUTIES AND RESPONSIBILITIES**

#### 1. Engineering Practice Design (50%)

- a. Coordinates the planning, design and construction of engineering practices such as water management, animal waste management, erosion control, flood control, wetland creation or restoration, and other conservation practices needing engineering guidance. Makes periodic onsite inspections of the engineering work for technical adequacy and adherence to standards and policy to assure work is being carried out according to drawings and specifications, and to identify major problems not covered by precedents or established policies.
- b. Interprets plans and specifications for contractors, solving problems at local level as to proper interpretation of specifications. Directs calculations of earthwork, concrete, steel, conduits, and other materials, and prepares construction estimates and bills of materials.
- c. Serves as or directs the contracting officer's representative for the administration of construction contracts. Plans and conducts pre-bid site showing, approves construction schedules, monitors work for compliance with contract requirements, verifies the accuracy of invoices and prepares receiving reports for plan estimates, directs the quality assurance program and supervises the government inspectors, recommends contract modifications and other duties as delegated to contracting officer's representative.

- d. Provides production engineering leadership and direction to the assigned area and helps provide engineering continuity and coordination across areas. Represents agency at meetings with state agency and Corps of Engineers personnel to review and decide on action for projects in the designated geographical location(s).
- e. Provides the assigned area/state, engineering assistance on both projects and non-project activities, as outlined in the annual plan of operations (APO) and strategic plan.
- f. Develops workload analysis, priorities, and scheduling recommendations identified by the strategic plan for the geographical location assigned.

### 2. Quality Assurance (30%)

- a. Makes site investigations and feasibility studies; field checks designs as prepared/approved by the State Conservation Engineer (SCE) of structural works of improvement prior to contracting; prepares or reviews field designs and preliminary and final drawings and specifications on agricultural engineering practices. Designs are checked for ease of construction, availability of materials and whether or not structures are adapted to the specific site.
- b. Recommends changes in designs, specifications, and schedules to accommodate conditions at construction site, availability of materials or to expedite construction. Makes hydrological determinations and solves hydraulic problems including flood routing.
- c. Makes periodic quality reviews of notes, drawings, designs, and installations for compliance with policies, procedures, and/or specifications. Keeps the ASTC informed at all times of the engineering operations in the area with recommendations for changes.
- d. Reviews and checks engineering planning, design, and construction work of NRCS field staff with lower Engineering Job Approval Authority in the area assigned. The incumbent is responsible for Engineering Job Approval Authority within the assigned work location.
- e. Coordinates and conducts necessary quality assurance reviews of planned, designed, and constructed engineering projects in the assigned area/state.
- f. Works within a team concept to develop and implement ways to improve the efficiency, effectiveness, and quality of the products and/or services provided to internal and external customers.

## 3. Training of Engineering Practices (20%)

- a. Assists the assistant state conservationist (ASTC) and the SCE in determining the training needs of the field personnel engaged in engineering work. Makes recommendations to the ASTC and the SCE on training needed and assists in the organization of the statewide engineering training program. Provides intensive engineering on-the-job training to field office staff as indicated by needs.
- b. Assists the ASTC and the SCE in evaluating the effectiveness of engineering practices, technical documents, and procedures; and in the development of new technical documents and revisions to existing Technical Guide Standards, specifications, and "How To" materials.

- c. Provides technical guidance and training to personnel in the area of all engineering practices and in the use and care of engineering equipment. Enlists the aid of appropriate specialists in conducting training when necessary. Serves as training location leader for newly hired NRCS engineers and technicians.
- d. Provides training to conservation contractors and others assisting with the planning and application of conservation practices. Provides training and consultation with consulting engineers, regulating boards, and others responsible for developing and implementing storm water and erosion control regulations in urban areas.

## 4. Civil Rights and Equal Employment Opportunity Responsibilities

Performs duties in a manner which actively supports civil rights policies regarding personnel rules and regulations and delivery of NRCS programs and services without regard to race, color, national origin, religion, sex, age, marital status, or mental or physical handicap.

#### Performs other duties as assigned.

CONDITION OF EMPLOYMENT - Operates a motor vehicle incident to the above duties. Must possess and maintain a valid state motor vehicle operator's license for the type of vehicle(s) operated. This will require the operation of a motor vehicle on both public and private roads during daylight hours and occasionally after dark.

### **EVALUATION FACTORS**

### 1. KNOWLEDGE REQUIRED BY THE POSITION - LEVEL 1-7 (1250 POINTS)

- a. Requires a working knowledge of hydraulics, hydrology, structural design, soil mechanics, water management, agricultural waste, stream restoration, and engineering geology.
- b. Ability to review designs, contracts, and make sure that quality control is built into all NRCS programs.
- c. Knowledge of related technical fields such as plant sciences, animal sciences, and soil science is needed for developing new approaches to conservation practices and implementing conservation practices and water resources structures.
- d. Knowledge and ability to plan, design, and install projects from simple on-farm projects to complex watershed projects. Requires a good working knowledge of NRCS policies, and federal and state laws governing NRCS projects.

#### 2. SUPERVISORY CONTROLS – LEVEL 2-4 (450 POINTS)

The incumbent is under the general supervision of the ASTC/SCE with technical guidance provided by the SCE. The incumbent develops priorities, timetables, schedules and strategies of work to be done. Work is coordinated with other agency personnel. The incumbent plans and assigns work for the assigned engineering staff. The incumbent develops performance appraisal worksheets, evaluates performance, and exercises general supervision over such employees.

Completed work is reviewed by the supervisor or other Service personnel from an overall standpoint in terms of feasibility, compatibility with other work, or effectiveness in meeting requirements or expected results.

### 3. GUIDELINES – LEVEL 3-4 (450 POINTS)

General guidance is available from engineering handbooks and manuals, and from Service policy. While these guidelines are generally applicable, the incumbent must select, adapt, and apply the appropriate criteria, methods, and procedures to the site conditions. The incumbent is required to exercise judgment and show initiative to ensure that surveys, investigations, designs, and construction are technically sound, economically feasible, within policy and limited program resources, and appropriate for the site conditions.

### 4. COMPLEXITY – LEVEL 4-4 (225 POINTS)

- a. The responsibility for all engineering practices in the geographical location/state and all construction work under authority of NRCS programs. The incumbent has wide latitude for action and decision and is assigned complete overall technical responsibility for the more difficult type of conservation practices. Public health and safety regulations require permits for storm water runoff, construction of larger dams, well construction and plugging, and construction of animal waste management systems.
- b. Topography is extremely varied with extensive areas of cropland and pastureland and some urban-built-up land making up the land use. The incumbent is expected to provide expertise to contractors in construction operations such as earthwork excavation and fill placement, dewatering, erecting structures, and installing motors. Relations must be maintained with local sponsors, local landowners, Corps of Engineers, contractors, state and county highway departments, and cooperating state agencies. New ideas and procedures in construction must be considered. Actions constitute initial, and in many cases, final decisions and actions regarding construction procedures.

### 5. SCOPE AND EFFECT – LEVEL 5-4 (225 POINTS)

- a. Engineering projects prepared in the state are developed for individual landowners, groups, units of government, and other agencies. Significant amounts of federal, local and/or private money is invested in each construction project and demands a high quality product. Proper management, training, design review, and quality control are required for each project.
- b. The incumbent provides interpretation of agency policies and procedures which are essential in the formulation of sound conservation facilities. The work accomplished contributes to the diverse geographical -wide reduction of soil erosion, improved water management, improved animal waste management, better use of plants, and improved air quality.
- c. The incumbent must be able to deal with a variety of conditions that exist throughout the state such as contrasting extremes of topography, climate, geology, and soils.

## 6. & 7 PERSONAL AND PURPOSE OF CONTACTS – LEVEL 2C (145 POINTS)

- a. Personal Contacts Contacts are both within and outside the agency. Contacts within the agency are often at different organizational levels. Contacts outside the agency are usually unstructured and involve contractors, landowners, state and local government representatives, Corps of Engineers, and, occasionally, the media.
- b. Purpose of Contacts Contacts are made to persuade, influence, and inform unconvinced, and sometimes persons with different views and opinions, to agree on solutions to problems and the proper course of action. The incumbent overcomes initial reluctance by emphasizing technical reasons and gains to be accomplished through use of specific actions. Tact and diplomacy are used to achieve a consensus on the appropriate course of action. Contacts may be to resolve complaints from customers or in response to Congressional inquiries.

### 8. PHYSICAL DEMANDS – LEVEL 8- 2- (20 POINTS)

The work requires some physical exertion such as long periods of standing, traversing steep slopes and rough construction sites, recurring bending and stooping, jumping across shallow ditches, walking in soft, muddy and slippery conditions, and lifting and carrying equipment and samples that weigh up to 50 pounds.

#### 9. WORK ENVIRONMENT – LEVEL 9-2 (20 POINTS)

Work is typically performed in an office setting. Frequent trips to field sites involve exposure to construction equipment and the environment, and extreme temperatures of hot and cold. Employees will be required to wear hard hats and observe necessary precautions on scaffolding, in trenches, and in the area of moving machinery. Exposure to noise levels common to construction sites with large earthmoving equipment can be expected. There will be exposure to disease carrying insects and irritating plants.

This position is determined to be exempt from the provisions of FLSA, CFR 551.207.

**Total Points = 2,785 Range GS-12 = 2,755-3,150** 

## EVALUATION STATEMENT CIVIL/AGRICULTURAL ENGINEER GS-0810/890-12 Non-Supervisory

USDA – NRCS

## **INTRODUCTION**

This position is located in a diverse geographical with complex engineering practices in a field or state office with USDA - Natural Resources Conservation Service. The incumbent serves as an area, zone or state engineer and is responsible for providing technical guidance and leadership in the overall planning, design, installation, and maintenance of the engineering phases of soil and water conservation practices as well as watershed flood protection programs.

#### **SERIES AND TITLE DETERMINATION**

Responsible for performing and/or directing the full range of field engineering functions associated with assigned technical engineering projects. Prepares field designs and sketches with written descriptions of work for construction contract modifications. Communicates with contractors and field offices regarding all aspects of technical engineering relating to overall planning, design, installation, and maintenance of the engineering phases of soil and water conservation practices as well as watershed flood protection programs. The scope of work and responsibilities assigned clearly match the requirements for a professional engineer. Since these functions can be performed by individuals within the Civil- GS-810, or Agricultural GS-890 Engineering disciplines, the Interdisciplinary, GS-800 title is appropriate.

Title, Series, and Grade: Civil Engineer, GS-810-12 or Agricultural Engineer, GS-890, 12

GRADE LEVEL DETERMINATION: The GS-0800 Engineering Professional standard refers the classifier to the, OPM JFS PROFESSIONAL WORK ENGINEERING & ARCHITECTURE GROUP, NOV 2008 for guidance related to grade level determination. This guide uses a factor evaluation process to determine the appropriate grade for positions using this Job Family Standard; therefore, a factor-by-factor analysis is used to determine the proper grade for this position.

POSITION EVALUATION SUMMARY							
Evaluation Factors		Factor Level Used (FL#, etc.)	Points Assigned	Comments			
1. Knowledge Requ Position	ired by the	1-7	1250				
2. Supervisory Cont	rols	2-4	450				
3. Guidelines		3-4	450				
4. Complexity		4-4	225				
5. Scope and Effect		5-4	225				
6. & 7. Personal Con of Contacts	ntacts & Purpose	2C	145				
8. Physical Demand	S	8-2	20				
9. Work Environme	nt	9-2	20				
	Total Points	,	2785	Classified by: Darlene Locke, Human Resources Specialist, HRMD			
SUMMARY	Grade Conversion	2755-3150	GS-12	<b>Date:</b> 10/23/2009			

# Additional Remarks:

**FLSA DETERMINATION:** This position does not meet the Professional Exemption Criteria as defined in 5 CFR 551.207 and is considered Exempt by FLSA Standards.